

Ref\_Account\_Status :

|  |  |
| --- | --- |
| Account\_Status\_Code | Account\_Status\_Description |
| 1  2  3 | Active  Inactive  Closed |

Ref\_Account\_Types :

|  |  |
| --- | --- |
| Account\_Type\_Code | Account-Type\_Description |
| 1  2 | Checking A/C  Savings A/C |

Customer :

|  |  |  |  |
| --- | --- | --- | --- |
| Customer\_ID | Customer\_Name | DOB | City |
| 101 | John | 1983-08-15 | Auckland |
| 102 | Jimmy | 1981-04-14 | Dunedin |
| 103 | Timmy | 1986-05-24 | Queenstown |
| 104 | Dolly | 1991-08-15 | Christchurch |
| 105 | Jhony | 1982-02-12 | Auckland |
| 106 | Jiff | 1995-06-01 | Dunedin |

Accounts :

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Account\_Number | Account\_Status\_Code | Account\_Type\_Code | Customer\_ID | Current\_Balance |
| 10001 | 1 | 1 | 101 | 38000.00 |
| 10002 | 1 | 2 | 101 | 300.00 |
| 10003 | 2 | 1 | 102 | 30.00 |
| 10004 | 1 | 1 | 102 | 3800.00 |
| 10005 | 1 | 2 | 103 | 50000.00 |
| 10006 | 1 | 1 | 104 | 380000.00 |
| 10007 | 1 | 2 | 105 | 38000.00 |
| 10008 | 1 | 1 | 106 | 38000.00 |

Solutions :

Created above tables and inserted data.

From above dissection of a Banking System tables, design a transaction with following requirement:

1. Whenever there is a new Account added to above Banking System - either insert into complete set of Accounts, Ref\_Account\_Status and Ref\_Account\_Types

How to implement above scenario?

means

Whenever there is a new Account, it should be validated against validity of account types. Then insert this new account data into Accounts Tables and Customers Tables.

CREATEPROCUSP\_Accounts\_Validate\_Insert(@acc\_noINT,@acc\_s\_cINT,@acc\_t\_cINT,@cust\_idINT,@cur\_balMONEY,@cust\_nameVARCHAR(200),@cust\_DOBDATE,@cust\_addVARCHAR(200))

AS

BEGIN

--- TO VALIDATE AGAINST VALIDITY OF ACCOUNT TYPES

DECLARECRSRCURSOR

FOR

SELECTAccount\_Type\_CodeFROMRef\_Account\_Types

DECLARE@A\_CINT,@FLAG1INT

OPENCRSR

FETCHNEXTFROMCRSRINTO@A\_C

WHILE@@FETCH\_STATUS=0

BEGIN

IF@A\_C=@acc\_t\_c

SET@FLAG1=0

ELSE

SET@FLAG1=1

FETCHNEXTFROMCRSRINTO@A\_C

END

DEALLOCATECRSR

IF@FLAG1!= 0

PRINT' INVALID ACCOUNT TYPE'

ELSE

BEGIN

--- TO CHECK IF CUSTOMER IS ALREADY AVAILABLE IN CUSTOMER TABLE(TO AVOID DUPLICATES)

DECLARECRSCURSOR

FOR

SELECTCustomer\_IDFROMCustomer

DECLARE@C\_IDINT,@FLAGINT

OPENCRS

FETCHNEXTFROMCRSINTO@C\_ID

WHILE@@FETCH\_STATUS=0

BEGIN

IF@C\_ID=@cust\_id

SET@FLAG=0

ELSE

SET@FLAG=1

FETCHNEXTFROMCRSINTO@C\_ID

END

IF(@FLAG=1)

INSERTINTOCustomerVALUES(@cust\_id,@cust\_name,@cust\_DOB,@cust\_add)

INSERTINTOAccountS(Account\_Number,Account\_Status\_Code,Account\_Type\_Code,Customer\_ID,Current\_Balance)VALUES(@acc\_no,@acc\_s\_c,@acc\_t\_c,@cust\_id,@cur\_bal)

DEALLOCATECRS

END

END

1. Update the Account Balance in accounts table and also update the running balance in Transaction table. How to achieve this?

CREATE TRIGGER Trigger\_Update

ON Accounts

FOR UPDATE

AS

BEGIN

MERGE Transactions T

USING Accounts A

ON A.Account\_Number = T.Account\_Number

WHEN MATCHED THEN

UPDATE SET T.Running\_Balance = A.Account\_Balance

END

1. How to report the list of all accounts with their types and status? Clue: Joins

SELECTAccount\_Number,Account\_Type\_DescriptionASAccount\_Type,Account\_Status\_DescriptionASAccount\_StatusFROMAccountS

INNERJOINRef\_Account\_Types

ONRef\_Account\_Types.Account\_Type\_Code=AccountS.Account\_Type\_Code

INNERJOIN

Ref\_Account\_Status

ON

AccountS.Account\_Status\_Code=Ref\_Account\_Status.Account\_Status\_Code

ORDERBYAccount\_Type\_Description,Account\_Status\_Description

OUTPUT :

|  |  |  |
| --- | --- | --- |
| Account\_Number | Account\_Type | Account\_Status |
| 10001 | Checking A/C | Active |
| 10004 | Checking A/C | Active |
| 10006 | Checking A/C | Active |
| 10008 | Checking A/C | Active |
| 10003 | Checking A/C | Inactive |
| 10007 | Savings A/c | Active |
| 10005 | Savings A/c | Active |
| 10002 | Savings A/c | Active |

1. How to report the list of all accounts with running totals? Clue: Function @ Group By

SELECTAccount\_Type\_DescriptionASAccount\_Type,SUM(Current\_Balance)ASTotal\_AmountFROMAccountS

INNERJOIN

Ref\_Account\_Types

ONAccountS.Account\_Type\_Code=Ref\_Account\_Types.Account\_Type\_Code

GROUPBYAccount\_Type\_Description

Output :

|  |  |
| --- | --- |
| Account\_Type | Total\_Amount |
| Checking A/C  Savings A/C | 459830.00  88300.00 |

5. Create a trigger tr2 For INSERT,DELETE Triggering event where trigger should be fired if the transaction

is performed before 10AM and After 4PM?(TBLACCACCOUNT)

1. create a trigger tr3 for INSERT,DELETE triggering event where trigger should be fired if the transactions are performed on SUNDAY? (TBLACCACCOUNT)
2. Create a trigger t12 For INSERT Triggering event where trigger should be fired if the input amount is more than balance. (TBLACCACCOUNT)